

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jong Lee (Reg. No. 36,197) on 02/05/10.

The application has been amended as follows:

**Claim 1:** Insert the phrase -- in a computer,-- between the words "calculating" and "a three-dimensional, kinematic model of the at least two vehicles".

Insert the phrase -- on a display,-- between the phrases "visually representing" and "the three-dimensional, kinematic model of the at least two vehicles".

Replace **claim 14** to read:

14. A computer-readable storage medium storing a computer program ~~computer program stored on a computer-readable medium having a program code~~ that when executed on one of a computer and a processing unit results in a performance of: calculating a three-dimensional, kinematic model for at least two vehicles involved in a collision, the model including at least one linear-motion-dynamics signal and at least one lateral-motion-dynamics signal and a radar signal of an adaptive cruise control system of each of the at least two vehicles, wherein the at least one lateral-motion-dynamics signal includes a rotational-rate signal of a yaw sensor, and wherein an

identical time basis for the at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock in each of the two vehicles and recorded, and wherein the radar signal of the adaptive cruise control system and the identical time basis provided by the real-time clocks are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined; and visually representing the three-dimensional, kinematic model of the at least two vehicles involved in the collision.

Replace **claim 17** to read:

17. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, wherein:

the at least one linear-motion-dynamics signal includes at least one of speed signals of all wheels, vehicular-speed signals, longitudinal-acceleration signals, and a GPS signal.

Replace **claim 18** to read:

18. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, wherein:

the at least one lateral-motion-dynamics signal further includes at least one of lateral-acceleration signals and steering-angle signals.

Replace **claim 20** to read:

20. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, wherein a rotational-rate signal of an ESP system is utilized as the rotational-rate signal of the yaw sensor.

Replace **claim 21** to read:

21. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, an execution of the computer program further comprising:

outputting a message based on the at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal in response to a predeterminable event.

Replace **claim 27** to read:

27. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, wherein the real-time clocks are automatically calibrated via radio.

Replace **claim 28** to read:

28. The computer-readable storage medium ~~computer program~~ as recited in Claim 14, wherein the program-code when executed on one of the computer and the processing unit results in a performance of:

determining, based on the three-dimensional, kinematic model of the at least two vehicles, a force exerted by the collision on an occupant of at least one of the vehicles; and responsive to the determining of the force exerted, transmitting an alert message for delivery to a rescue service, the alert message including an indication of a severity of the collision.

2. The following is an examiner's statement of reasons for allowance:

Applicants are disclosing a method, system and medium calculating a three-dimensional, kinematic model for at least two vehicles involved in a collision, the model including at least one linear-motion-dynamics signal and at least one lateral-motion-dynamics signal and a radar signal of an adaptive cruise control system of each of the at least two vehicles. This has been disclosed in the prior art of record.

The prior art of record does not disclose wherein *an identical time basis* for at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock in each of the two vehicles and recorded and wherein the radar signal of the adaptive cruise control system and *the time identical basis* provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined in combination with the aforementioned limitations and in the sequence recited.

The closest prior art uncovered during examination teaches certain limitations of the claimed invention as follows:

**“Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program”**, Fittanto et al.: Discloses calculating a three-dimensional, kinematic model (**page 13, Introduction**) of at least two vehicles (**Figures 12-14**), the model including at least one linear-motion-dynamics signal (**page 21, 2<sup>nd</sup> column, last paragraph**) and at least one lateral-motion-dynamics signal (**page 21, 2<sup>nd</sup> column, last paragraph**) and wherein a time basis for the at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock of at least one of the two vehicles and recorded (**Figures 15-16 and accompanying text**), and visually representing the three-dimensional, kinematic model of the at least two vehicles involved in the collision (**Figures 12-14 and accompanying text**). However, Fittanto fails to disclose wherein an identical time basis for at least one

linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock in each of the two vehicles and recorded and wherein the radar signal of the adaptive cruise control system and the time identical basis provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined.

**U.S. Patent No. 5,581,464**, Woll; Discloses a radar signal of an adaptive cruise control system of each of the at least two vehicles (**column 3, lines 45-59**) wherein the at least one lateral-motion-dynamics signal includes a rotational-rate signal of a yaw sensor (**column 4, lines 10-18**) and wherein the radar signal of the adaptive cruise control system (**column 3, lines 40- 59**) and the time basis provided by the real-time clock of the at least one of two vehicles (**column 4, lines 33-38 and column 7, lines 28-38**) are utilized to determine relative positions of the at least two vehicles (**column 3, line 60 – column 4, line 7**). However, Woll fails to disclose wherein an identical time basis for at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock in each of the two vehicles and recorded and wherein the radar signal of the adaptive cruise control system and the time identical basis provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined.

**U.S. Patent No. 6,564,149 B2**, Lai; Discloses wherein the radar signal of the adaptive cruise control system and the time basis provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined (**column 5, lines 35-45**). However, Lai fails to disclose wherein an identical time basis for at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal is provided by a real-time clock in each of the two vehicles and recorded and wherein the radar signal of the adaptive cruise control system and the time identical basis provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUZANNE LO whose telephone number is (571)272-5876. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571)272-2297. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamini S Shah/  
Supervisory Patent Examiner, Art Unit  
2128

/SL/  
02/11/10